Complete Summary

GUIDELINE TITLE

Do-not-resuscitate orders for pediatric patients who require anesthesia and surgery.

BIBLIOGRAPHIC SOURCE(S)

Fallat ME, Deshpande JK. Do-not-resuscitate orders for pediatric patients who require anesthesia and surgery. Pediatrics 2004 Dec;114(6):1686-92. [31 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

American Academy of Pediatrics (AAP) Policies are reviewed every 3 years by the authoring body, at which time a recommendation is made that the policy be retired, revised, or reaffirmed without change. Until the Board of Directors approves a revision or reaffirmation, or retires a statement, the current policy remains in effect.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Conditions requiring anesthesia and surgery

GUIDELINE CATEGORY

Management

CLINICAL SPECIALTY

Anesthesiology
Family Practice
Pediatrics
Surgery

INTENDED USERS

Advanced Practice Nurses
Allied Health Personnel
Hospitals
Nurses
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To provide recommendations for the use of do-not-resuscitate orders for pediatric patients who require anesthesia and surgery

TARGET POPULATION

Pediatric patients with preexisting do-not-resuscitate orders who require anesthesia and surgery

INTERVENTIONS AND PRACTICES CONSIDERED

1. Informed consent
    - "Required reconsideration" of do-not-resuscitate (DNR) orders
    - Patient/parent education/discussion
2. Documentation in medical record
    - Patient/parent wishes
    - Interval of DNR suspension if appropriate
3. Communicate DNR orders to relevant staff and identify staff who are willing to honor the DNR request
4. Referral to ethics committee as appropriate

MAJOR OUTCOMES CONSIDERED

Not stated

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Searches were done using PubMed and specialty society surveys.

NUMBER OF SOURCE DOCUMENTS

Two surveys

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)
Subjective Review

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Informed Consent

To respect the child's and family's wishes, physicians must obtain informed permission from a parent or surrogate before a child can undergo any medical intervention including surgery and resuscitation. Ordinarily, resuscitation efforts do not require informed consent, because they are deemed emergency interventions and consent is implied. However, terminally ill or severely disabled children and their parents are often confronted with the decision of whether resuscitation should be attempted in the event the child's underlying disease results in cardiopulmonary arrest.

Customarily, physicians will approach the parent or surrogate about instituting a do-not-resuscitate (DNR) order when it is felt that resuscitation of the child would not be beneficial and would only prolong the time to death. When a parent or surrogate consents to a DNR order, it is under the assumption that cardiopulmonary arrest will be a direct consequence of the child's underlying disease. Surgery and anesthesia constitute a change in the child's medical status, because they introduce additional risks to the patient. Because surgeons and anesthesiologists are rarely involved in the original DNR decision, they cannot be certain that the implications of the DNR status in the perioperative setting were discussed with the patient's parent (or other surrogate). Therefore, the parent or surrogate, the surgeon, and the anesthesiologist should reevaluate the DNR order for a child who requires an operative procedure. This reevaluation process has been called "required reconsideration" and should be incorporated into the process of informed consent for surgery and anesthesia. Discussions regarding consent under these circumstances should be initiated by attending staff, particularly in hospitals with residency teaching programs in which residents may be routinely involved in the consent process.

The surgeon and anesthesiologist must approach the parents and child with compassion. There is often no previous relationship established between the patient, parents, and surgical team, precluding a brief preoperative assessment. "Active listening" is essential. The parent or surrogate should be asked about specific interventions and their understanding of the relative merits of each of these interventions during resuscitation (see Table 3 in the original guideline document).

Airway management should be determined by what is mandated by the child's condition and the surgical procedure. Specific prohibition of tracheal intubation is problematic, and beliefs and concerns must be carefully elicited and discussed. Exceptions to the injunctions against intervention should be specifically noted in the patient's medical record. The parent may agree to a temporary suspension of the DNR order during the perioperative period. If so, the temporal end point to the DNR suspension needs to be recorded as well. If an agreement cannot be obtained after thorough discussion, the wishes of the informed parent or surrogate must prevail. In some cases, the parents may feel that the burden of a therapy is not worth the potential benefits and decline the procedure. When an

individual physician feels that the parent's wishes are inconsistent with his or her medical, ethical, or moral views, the physician should withdraw from the case after ensuring continuity of care (American Academy of Pediatrics [AAP], 1994) and could consider consulting the institutional ethics committee.

Role of the Surgeon

The following are operative interventions that might be considered for a pediatric patient with a DNR order:

1. Provision of a support device that will enable the child to be discharged from the hospital (e.g., gastrostomy tube or tracheostomy).
2. Urgent surgery for a condition unrelated to the underlying chronic problem (e.g., acute appendicitis in a terminal cancer patient)
3. Urgent surgery for a condition related to the underlying chronic problem but not believed to be a terminal event (e.g., a pathologic fracture or bowel obstruction).
4. A procedure to decrease pain
5. A procedure to provide vascular access.

It is the duty of the operating surgeon to discuss risks of a procedure with the parent or other surrogate of any pediatric patient, including how the patient's condition might influence the risk of anesthesia.

It is expected that the surgeon will advise parents or other surrogates and the child (if developmentally appropriate) regarding operative risks and benefits and advocate a policy of required reconsideration of previous DNR orders. The results of all discussions should be documented in the patient's medical record. The surgeon should also ultimately convey the patient's wishes to the members of the entire operating room team, help operating team members understand the patient's or surrogate's wishes, and find alternate team members to replace individuals who disagree with the patient's or surrogate's wishes. With children, the difficulty arises when there is no one who is willing to honor a family's wish to continue the DNR status during the anesthesia and surgery. Stalemates such as this should be referred to the ethics committee of the institution.

Role of the Anesthesiologist

Anesthesiologists have the duty to inform the parent or other surrogate of the risks and potential benefits of intraoperative resuscitation. Required reconsideration as part of the process of informed consent for anesthesia eliminates ambiguities and misunderstandings associated with patients who have DNR orders by providing anesthesiologists with the opportunity to educate the parent (or other surrogate) to become familiar with their values and perceptions of the child's quality of life and together clarify how the child's DNR order should be interpreted perioperatively. By giving parents or surrogates and clinicians the option of deciding from among full resuscitation, limitations based on procedures, or limitations based on goals, the child's needs are individualized and better served. Regardless of the decision made by the parent or other surrogate, the individual acting on behalf of the child must be readily available for consultation during the procedure.

If DNR Orders are Suspended: Qualification of Perioperative Interval

If the family or medical personnel involved in a child's care choose to suspend DNR orders during anesthesia and surgery, it is necessary to define the duration of suspension (Clemency & Thompson, 1997). The physiologic effects of anesthesia and surgery rarely terminate at the end of the procedure, but the duration thereafter depends on the anesthetic technique used and the type of surgical procedure performed. The acute effects of most anesthetic medications generally resolve within several hours or 1 day after surgery, and most anesthesiologists visit the patient the day after a surgical procedure and document recovery status in the patient record. Recovery of respiratory function after surgery depends on preoperative pulmonary function, chronicity of illness, and length of the procedure. Some patients will experience cardiopulmonary arrest during or immediately after surgery, which may be the result of an acute and reversible complication. It is appropriate to use mechanical ventilation after surgery as long as the patient continues to show significant and sustained improvement in pulmonary function. Once the patient ceases to recover or deteriorates, withdrawal of ventilatory support should be considered. Generally speaking, the suspension of DNR orders should continue until the postanesthetic visit, until the patient has been weaned from mechanical ventilation, or until the primary physician involved in the patient's care and the family agree to reinstate the DNR order.

The surgeon and anesthesiologist should feel comfortable, and should be allowed, to reinstate a DNR order intraoperatively through consultation with the family under certain conditions. For example, if cardiac arrest occurs during surgery and it is apparent that the arrest is the result of an irreversible underlying disease or complication and that cardiopulmonary resuscitation (CPR) would only allow continued deterioration, the DNR order should be reinstated. If resuscitation measures are withheld and intraoperative arrest occurs, such a death should be classified as "expected" for quality assurance purposes rather than "unexpected." Expected deaths do not require mandatory quality assurance review (Igoe, Cascella, & Stockdale, 1993; Youngner, Cascorbi & Shuck, 1991)

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

REFERENCES SUPPORTING THE RECOMMENDATIONS

References open in a new window

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- This guideline is intended to help clinicians appropriately manage pediatric patients with preexisting do-not-resuscitate orders who require anesthesia and surgery.
- By giving parents or other surrogates and clinicians the option of deciding from among full resuscitation, limitations based on procedures, or limitations based on goals, the child's needs are individualized and better served.

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The guidance in this report does not indicate an exclusive course of treatment or serve as a standard of medical care. Variations, taking into account individual circumstances, may be appropriate.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementing "Required Reconsideration"

Hospitals are encouraged to develop and maintain written policies permitting the forgoing of life-sustaining treatment of patients, including children, in appropriate circumstances. Once a DNR order is in place according to accepted standards, it is important that it be reviewed before surgery to determine applicability in the operating room and the postoperative recovery period. Hospitals wishing to develop a "required reconsideration" policy may want to address the following elements:

- Include in the discussion with a child's parent or other surrogate information about the likelihood of requiring resuscitative measures, a description of these measures and their reversibility, the chance of success, and possible outcomes with and without resuscitation. Establish an agreement about what, if any, resuscitative measures will be instituted during the procedure.
- Make the decision to uphold or suspend a DNR order on the basis of the planned procedure, the anticipated benefit for the child, and the likelihood of patient compromise as a result of the procedure.
- Document the salient features of the physician-family discussion in the medical record.
- Communicate plans to honor an intraoperative DNR order among relevant staff.

- Require any physician or other health care professional who is unwilling to honor a family's refusal of resuscitation to withdraw from the case and allow others to assume care. The withdrawing physician or health care professional should make a conscientious effort to identify another physician who is willing to honor the DNR request. (American Academy of Pediatrics, Committee on Bioethics, 1994)
- Recognize that a patient's or surrogate's decision to refuse intraoperative resuscitation can be compatible with the provision of therapeutic measures to treat conditions other than arrest. This decision does not necessarily imply limits on other forms of care such as intensive care.
- If the family chooses to rescind the DNR order in the operating room and arrest occurs with resuscitation, but the patient's process of dying has only been prolonged, make a provision to discuss withdrawal of life support after a determined amount of time.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

End of Life Care
Getting Better
Living with Illness

IOM DOMAIN

Patient-centeredness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Fallat ME, Deshpande JK. Do-not-resuscitate orders for pediatric patients who require anesthesia and surgery. Pediatrics 2004 Dec;114(6):1686-92. [31 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2004 Dec

GUIDELINE DEVELOPER(S)

American Academy of Pediatrics - Medical Specialty Society

SOURCE(S) OF FUNDING

American Academy of Pediatrics

GUIDELINE COMMITTEE

Section on Surgery
Section on Anesthesia and Pain Medicine
Committee on Bioethics

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Section on Surgery, 2004-2005: Donna A. Caniano, MD, Chairperson; Richard R. Ricketts, MD; Brad W. Warner, MD;

Kurt D. Newman, MD; Michael D. Klein, MD; Ann M. Kosloske, MD, Past Section Chairperson; Richard Andrassy, MD, Past Section Chairperson; Richard Azizkhan, MD, Past Section Chairperson; Thomas R. Weber, MD, Past Section Chairperson

Consultants: Jane Goldsmith, PhD; Katia G. Santos, MD

Staff: Chelsea Kirk

Section on Anesthesiology and Pain Medicine, 2004-2005: Thomas Mancuso, MD, Chairperson; Joseph Cravero, MD; Constance Houck, MD; Zeev Kain, MD; Lynne Maxwell, MD; Robert Valley, MD; Rita Agarwal, MD; Lynne Ferrari, MD, Past Section Chairperson; Patty Davidson, MD, Past Section Executive Committee Member; Jayant K. Deshpande, MD, Past Section Executive Committee Member

Staff: Kathleen Kuk Ozmeral

Committee on Bioethics, 2004-2005: Jeffrey R. Botkin, MD, MPH; Douglas S. Diekema, MD, MPH; Mary E. Fallat, MD; Eric D. Kodish, MD; Steven R. Leuthner, MD; Lainie Friedman Ross, MD, PhD; G. Kevin Donovan, MD, MLA; John T. Truman, MD, MPH, Past Committee Member; Benjamin S. Wilfond, MD, Past Committee Member

Liaisons: Christine E. Harrison, MD, Canadian Paediatric Society; Neil W. Boris, MD, American Academy of Child and Adolescent Psychiatry; Marcia Levetown, MD, American Board of Pediatrics; Arlene J. Morales, MD, American College of Obstetricians and Gynecologists; Alessandra (Sandi) Kazura, MD, Past Committee Liaison; Ernest F. Krug, III, MDiv, MD, Past Committee Liaison; Michael K. Lindsay, MD, Past Committee Liaison

Consultant: Dena S. Davis, JD, PhD

Staff: Alison Baker, MS

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

American Academy of Pediatrics (AAP) Policies are reviewed every 3 years by the authoring body, at which time a recommendation is made that the policy be retired, revised, or reaffirmed without change. Until the Board of Directors approves a revision or reaffirmation, or retires a statement, the current policy remains in effect.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Academy of Pediatrics (AAP) Policy Web site.

Print copies: Available from American Academy of Pediatrics, 141 Northwest Point Blvd., P.O. Box 927, Elk Grove Village, IL 60009-0927.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on February 4, 2005. The information was verified by the guideline developer on March 15, 2005.

COPYRIGHT STATEMENT

DISCLAIMER

NGC DISCLAIMER

The National Guideline Clearinghouse™ (NGC) does not develop, produce, approve, or endorse the guidelines represented on this site.

All guidelines summarized by NGC and hosted on our site are produced under the auspices of medical specialty societies, relevant professional associations, public or private organizations, other government agencies, health care organizations or plans, and similar entities.

Guidelines represented on the NGC Web site are submitted by guideline developers, and are screened solely to determine that they meet the NGC Inclusion Criteria which may be found at http://www.guideline.gov/about/inclusion.aspx.

NGC, AHRQ, and its contractor ECRI make no warranties concerning the content or clinical efficacy or effectiveness of the clinical practice guidelines and related materials represented on this site. Moreover, the views and opinions of developers or authors of guidelines represented on this site do not necessarily state or reflect those of NGC, AHRQ, or its contractor ECRI, and inclusion or hosting of guidelines in NGC may not be used for advertising or commercial endorsement purposes.

Readers with questions regarding guideline content are directed to contact the guideline developer.

Date Modified: 12/19/2005